

Experimental Climate Monitoring and Prediction

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Highlights

- The IRI weekly rainfall forecast predicts heavy rainfall in Northeastern coastal areas during 8th -13th Nov.
- Between 1-7 Nov: Rainfall up to 80 mm was recorded in Kilinochchi district on November 3rd.
- From 29 Oct- 4 Nov: minimum temperature of 15 °C was recorded from Nuwara Eliya district while most parts of the island recorded a maximum temperature between 35-40 °C.
- From 31 Oct- 6 Nov: up to 36 km/h, easterly winds were experienced by the Northern Province and up to 18 km/h northeasterly in the rest of the island.
- 0.5 °C above average sea surface temperature was observed in the seas around Sri Lanka.

Monitoring

Rainfall

Weekly Monitoring: On November 1st Jaffna, Kilinochchi, Mullaitivu, Polonnaruwa, Ampara, Batticaloa, Monaragala, Galle and Ratnapura districts received up to 50 mm; Mannar, Kegalla, Badulla, Trincomalee, Hambantota and Matara districts up to 30 mm; Vavuniya, Anuradhapura, Colombo, Kalutara, Nuwara Eliya, Kandy and Matale districts up to 20 mm; and rest of the country up to 10 mm. On the 2nd Jaffna and Kilinochchi districts received up to 70 mm of rainfall; Mullaitivu and Vavuniya districts up to 50 mm; Mannar, Anuradhapura, Polonnaruwa, Trincomalee, Batticaloa, Ampara, Monaragala and Badulla districts up to 30 mm; Puttalam, Matale and Kandy districts up to 20 mm; and rest of the island up to 10 mm. On the 3rd, Jaffna and Kilinochchi districts received up to 80 mm of rainfall; Badulla district up to 60 mm; Mullaitivu, Trincomalee, Anuradhapura, Batticaloa, Polonnaruwa, Ampara, Monaragala, Nuwara Eliya and Ratnapura districts up to 50 mm; Puttalam, Matale, Kalutara, Galle, Matara and Hambantota districts up to 30 mm; and rest of the island up to 20 mm. On the 4th Jaffna and Kilinochchi districts received up to 50 mm of rainfall; Mannar and Mullaitivu districts up to 20 mm; and most parts of the island up to 10 mm. On the 5th, Vavuniya and Anuradhapura districts received up to 50 mm of rainfall; Puttalam and Jaffna districts up to 30 mm; Kilinochchi, Mannar, Mullaitivu, Trincomalee and Polonnaruwa districts up to 20 mm. On the 6th, Ratnapura district received up to 90 mm of rainfall; Kalutara, Nuwara Eliya, Badulla and Monaragala districts up to 60 mm; Polonnaruwa, Kurunegala, Kegalla, Kandy, Gampaha, Colombo, Galle, Matara, and Hambantota districts up to 50 mm; Puttalam district up to 30 mm; and Trincomalee and Ampara districts up to 20 mm. On the 7th, Jaffna, Kilinochchi, Monaragala and Ratnapura districts received up to 30 mm of rainfall; Badulla district up to 20 mm; and rest of the country up to 10 mm.

Total Rainfall for the Past Week: The RFE 2.0 tool shows total rainfall of 200-300 mm in Jaffna district; up to 150-200 mm in Kilinochchi and Mullaitivu and Ratnapura districts; up to 100-150 mm Mannar, Trincomalee, Badulla and Monaragala districts; and up to 75-100 mm in Mannar, Vavuniya, Anuradhapura, Polonnaruwa, Batticaloa, Ampara, Hambantota, Matara, Galle, Kalutara, Colombo, Gampaha, Kegalla, Nuwara Eliya and Matale districts. It shows above average rainfall up to 100-200 mm in Ratnapura, Jaffna and Kilinochchi districts; and 50-100 mm in Kalutara, Badulla, Monaragala, Mullaitivu and Manar districts. It also shows below average rainfall up to 50-100 mm in Kurunegala district; and up to 25-50 mm in Puttalam, Kandy, Matale, and Anuradhapura districts.

Monthly Monitoring: During September - below average rainfall conditions were experienced in the eastern and southern regions of the island and above average rainfall in western and northern regions. Mullaitivu, Trincomalee, Polonnaruwa, Batticaloa, Matale, Ampara, Badulla, Nuwara Eliya, Ratnapura, Monaragala, Galle, Matara and Hambantota districts received up to 150 mm below average rainfall. Colombo district received up to 180 mm of above average rainfall; and Puttalam, Kurunegala, Colombo, Kegalla and Kalutara districts up to 150 mm. The CPC Unified Precipitation Analysis tool shows ~300 mm of total rainfall in Gampaha, Colombo and Kalutara districts; up to ~200 mm in Kegalla, Ratnapura and Galle districts; up to 100 mm in Puttalam, Kurunegala, Matale, Ampara, Monaragala, Badulla, Kandy and Matara districts; and up to 50 mm in many parts of the island.

Ocean State (Text Courtesy IRI)

Pacific sea state: October 19, 2017

In mid-October 2017, the tropical Pacific remained in an ENSO-neutral state but near the borderline of weak La Niña, as SSTs in the east-central tropical Pacific have cooled to the threshold for La Niña and the atmosphere has also shown patterns suggestive of near-La Niña conditions. The collection of latest ENSO prediction models indicates weak La Niña as a likely scenario during Northern Hemisphere fall and winter. The official CPC/IRI outlook favors La Niña development, and carries a La Niña watch.

Indian Ocean State

0.5 °C above average sea surface temperature was observed in the seas around Sri Lanka.

Predictions

Rainfall

14-day prediction:

NOAA NCEP models:

From 07th - 13th Nov: Total rainfall between 75-85 mm in Trincomalee and Batticaloa districts; between 65-75 mm in Jaffna, Kilinochchi, Mullaitivu, Polonnaruwa, Ampara and Ratnapura districts; between 55-65 mm in Anuradhapura, Badulla, Monaragala, Colombo, Kegalle and Nuwara Eliya districts; between 45-55 mm in Matale, Kandy, Gampaha and Galle districts; Up to 45 mm total rainfall rest of the island.

From 14th - 20th Nov: Total rainfall between 75-85 mm in Ratnapura district; between 65-75 mm in Colombo, Gampaha, Kegalle and Kalutara districts; between 55-65 mm in Kurunegala, Kandy, Nuwara Eliya, Trincomalee and Batticaloa districts; between 45-55 mm in Jaffna, Polonnaruwa, Matale, Ampara, Monaragala, Badulla and Puttalam districts; Up to 45 mm total rainfall rest of the island.

IMD WRF Forecast:

10th Nov: Up to 64.5 mm of rainfall in Mullaitivu district; Up to 35.6 mm in Jaffna, Mannar, Vavuniya, Anuradhapura, Trincomalee districts; Up to 7.6 mm in Polonnaruwa, Batticaloa, Gampaha, Kegalle, Kandy and Nuwara Eliya districts.

11th Nov: Up to 124.5 mm of rainfall in Mullaitivu, Vavuniya and Anuradistricts; Up to 64.5 mm in Trincomalee district; Up to 35.6 mm in Jaffna, Mannar, Puttalam, Polonnaruwa, Batticaloa, Kurunegala, Matale, Kandy, Nuwara Eliya, Kegalle and Badulla districts.

IRI Model Forecast:

8th - 13th Nov: Total rainfall between 100-150 mm in Mullaitivu district; between 75-100 mm in Kilinochchi, Vavuniya, Anuradhapura and Trincomalee districts; between 50-75 mm in Jaffna and Ampara districts; Up to 50 mm total rainfall rest of the island.

MJO based OLR predictions

For the next 15 days:

MJO shall enhance the rainfall in Sri Lanka in the next 10 days and shall suppress the rainfall in the following 5 days.

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Official hydro-meteorological statements are provided by the Sri Lanka Department of Meteorology and Department of Irrigation.

FECT BLOG

Past reports available at <http://fectsl.blogspot.com/> and <http://fectsl.wordpress.com/>

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Weekly Hydro- Meteorological Report for Sri Lanka

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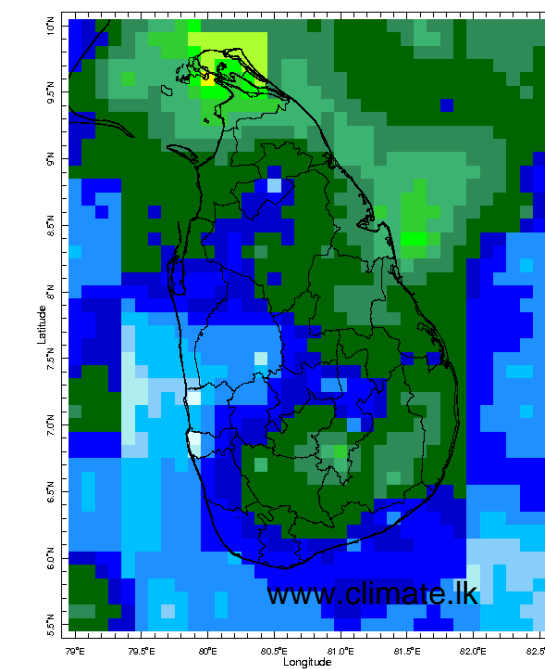
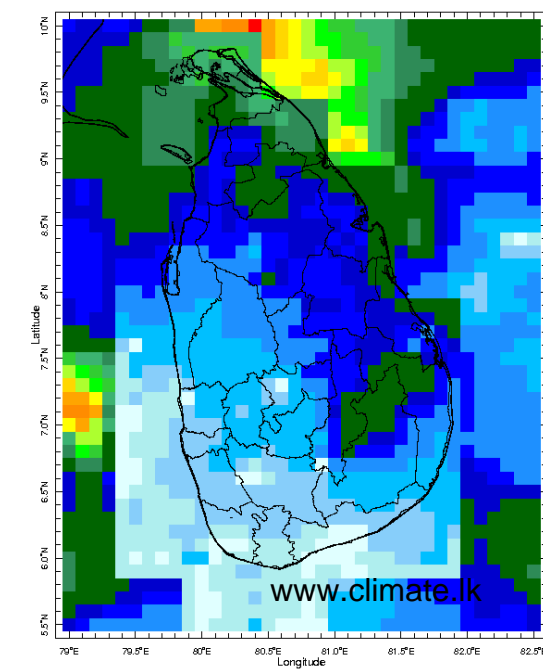
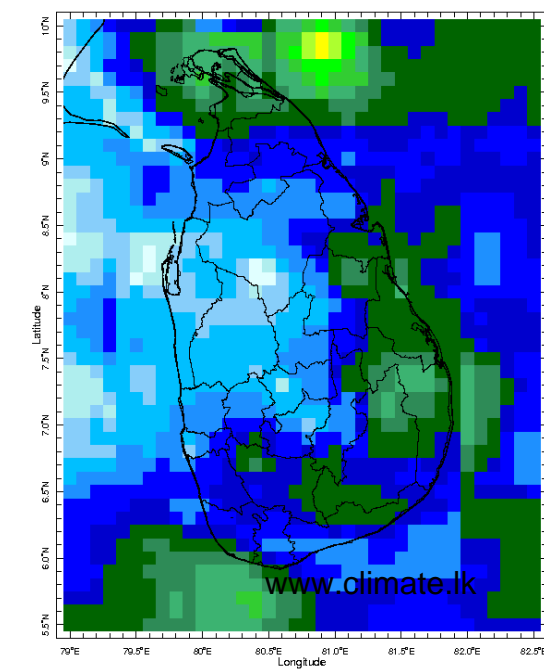
2. Predictions

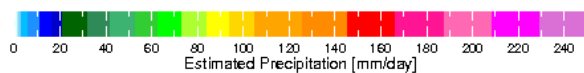
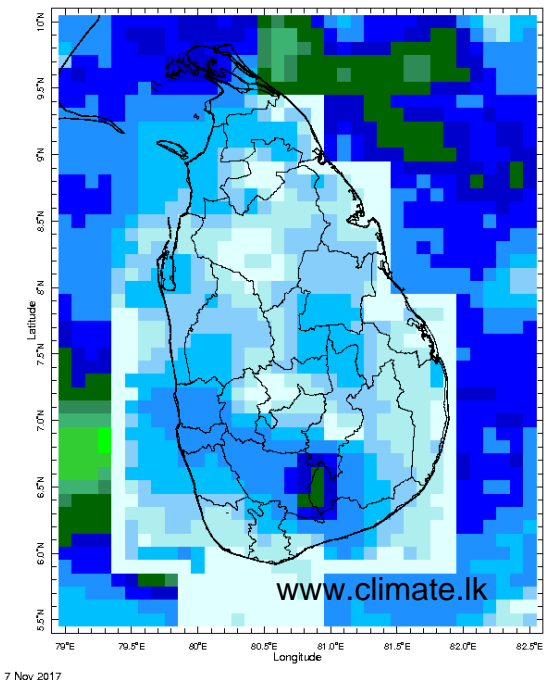
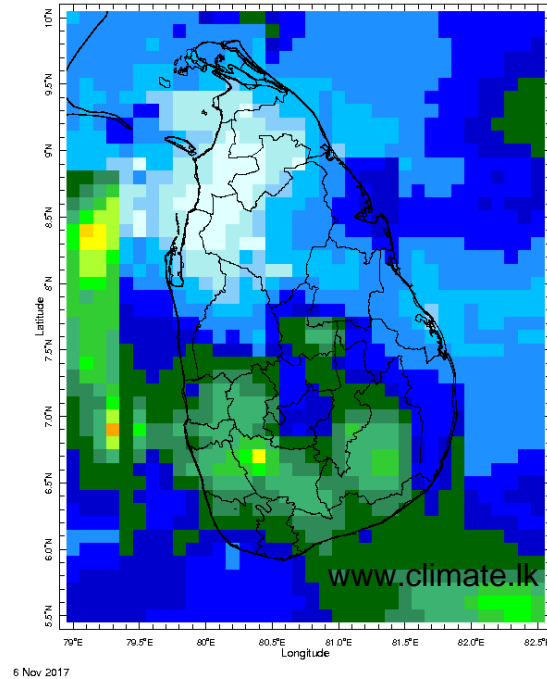
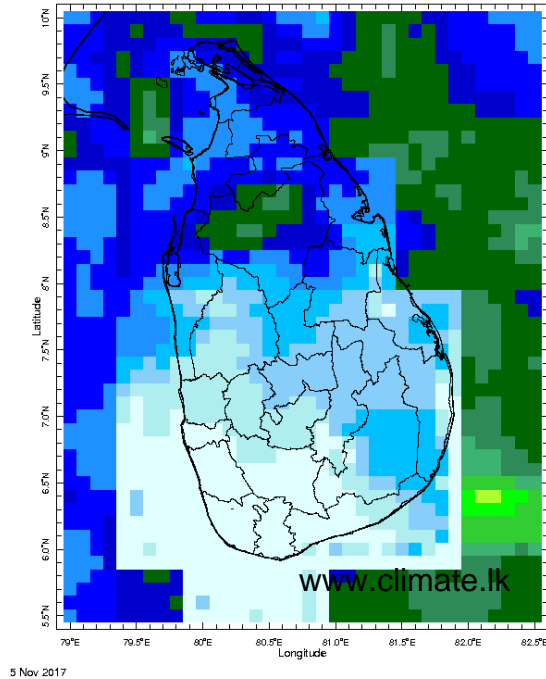
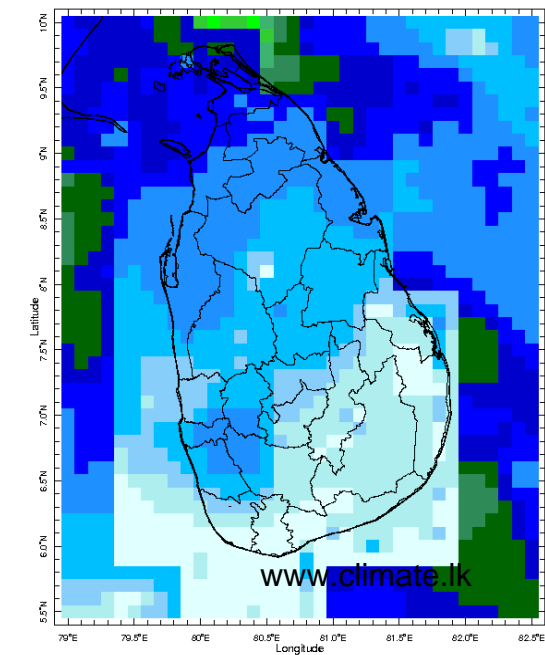
- NCEP GFS Ensemble 1-14 day Rainfall Predictions
- WRF Model Rainfall Forecast from IMD Chennai
- Weekly Precipitation Forecast from IRI
- Seasonal Predictions from IRI

MONITORING

Daily Rainfall Monitoring

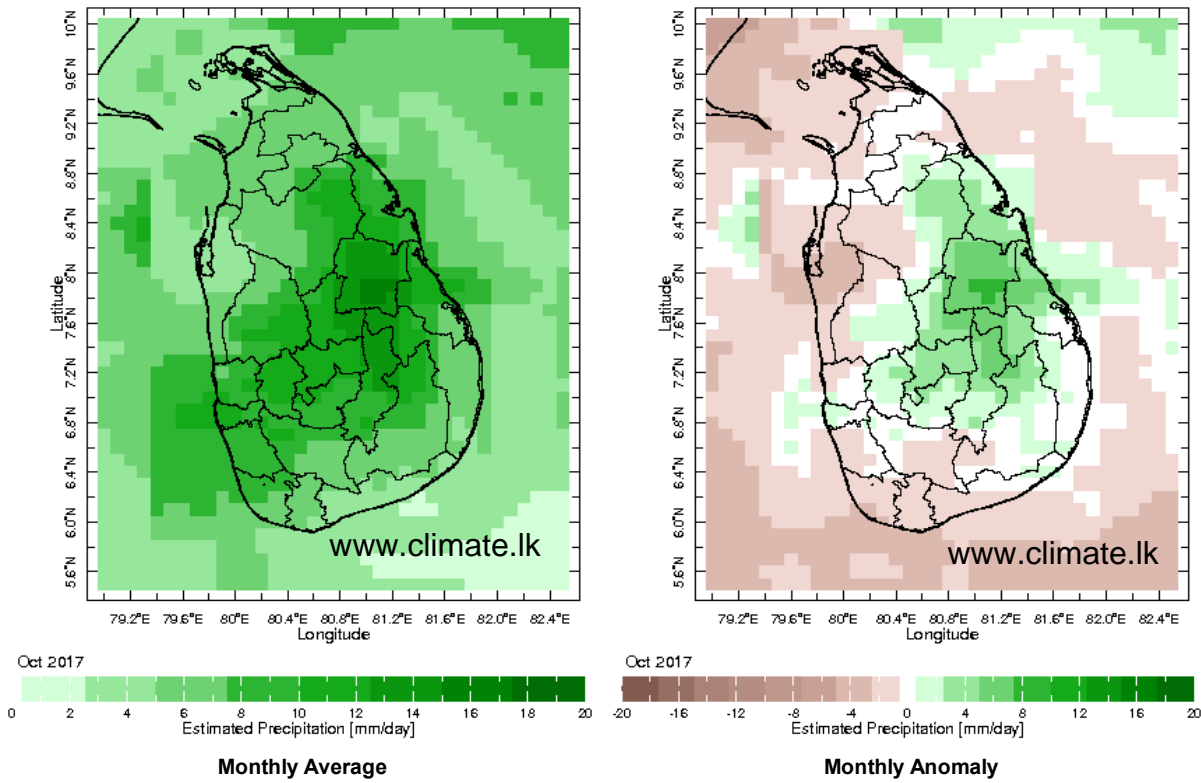
The following figures show the satellite observed rainfall in the last 7 days in Sri Lanka.



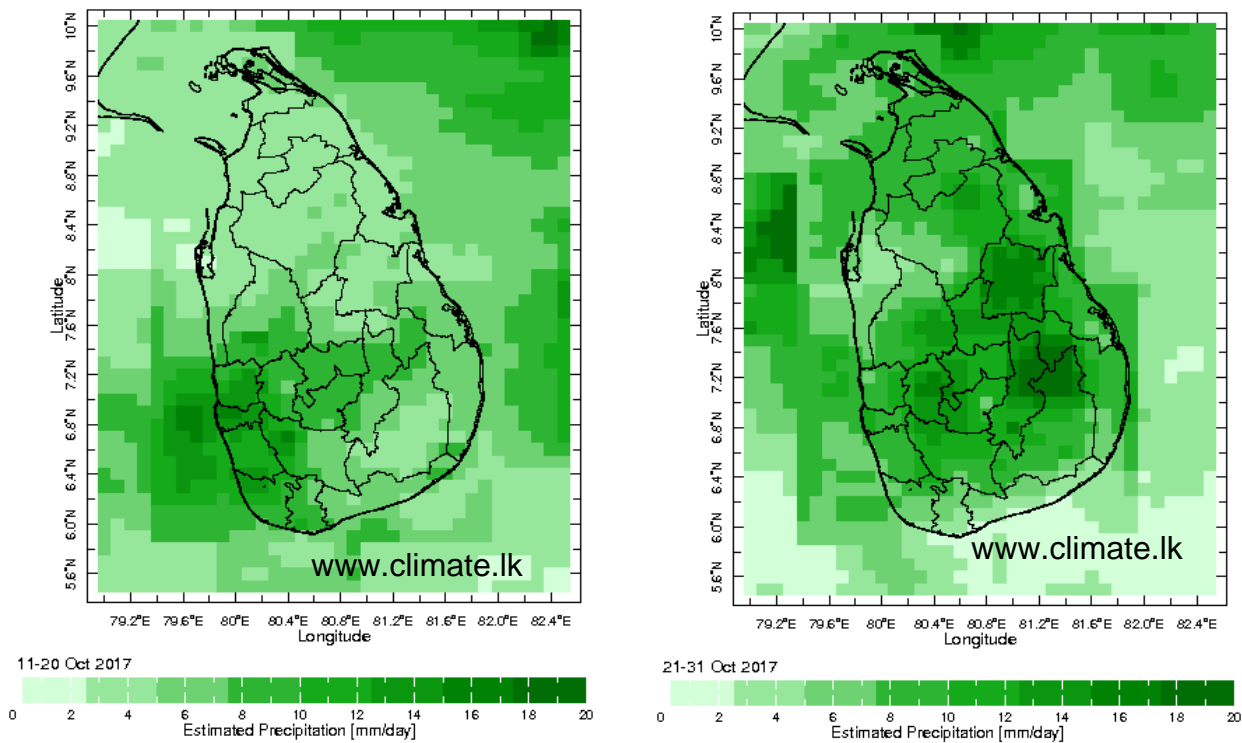


Monthly Rainfall Monitoring

The figure in the left shows the average observed rainfall in the previous month. The rainfall anomaly in the previous month is shown in the figure to the right. The brown color in the anomaly figure shows places which received less rainfall than the historical average while the green color shows places with above average rainfall. Darker shades show higher magnitudes in rainfall

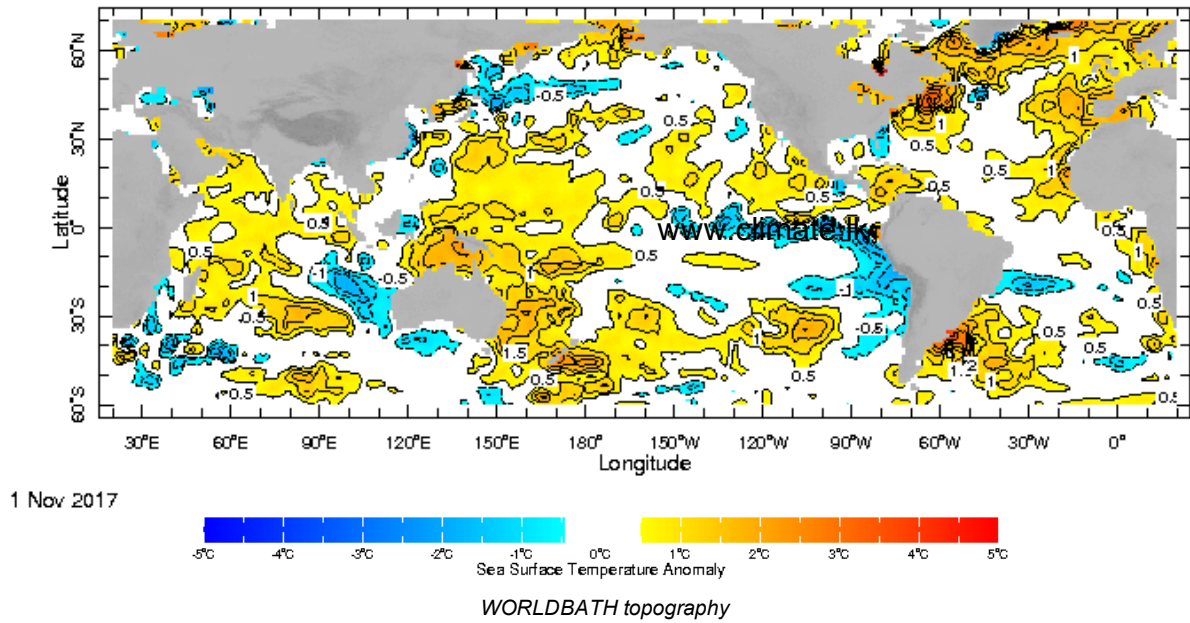


Dekadal (10 Day) Satellite Derived Rainfall Estimates

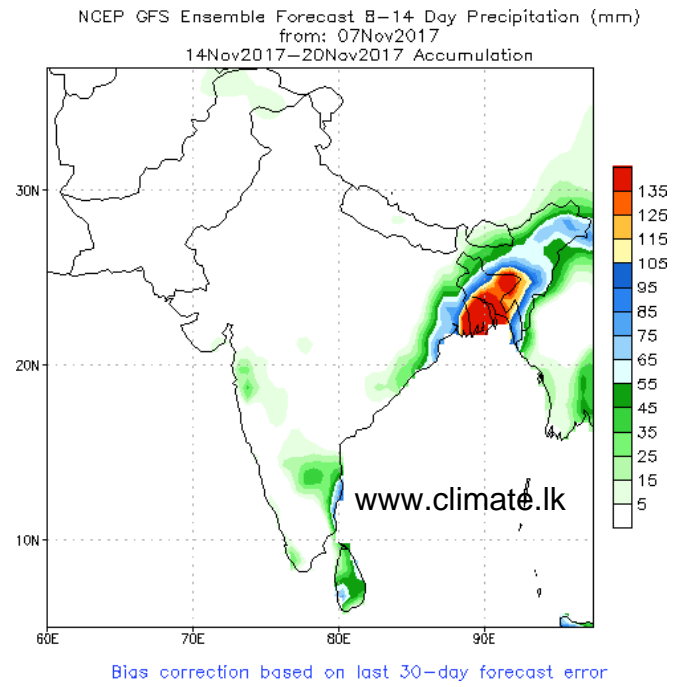
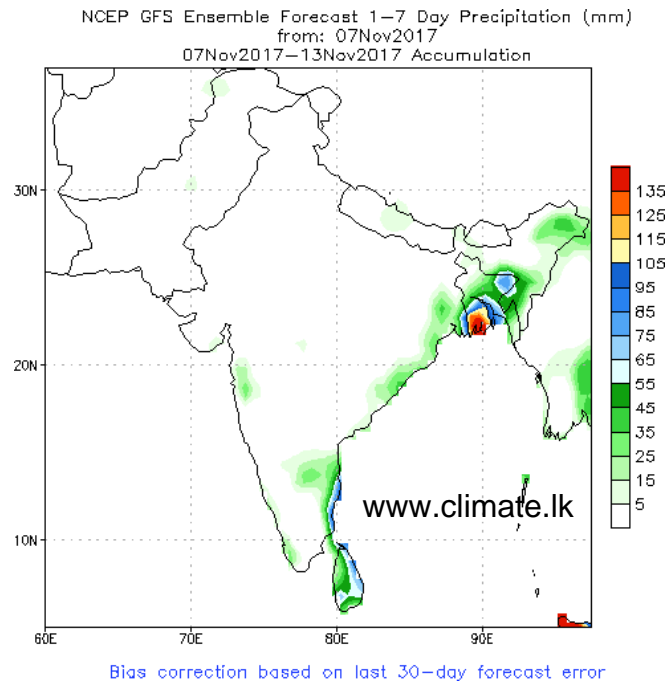


Weekly Average SST Anomalies

Weekly average Sea Surface Temperature (SST) anomaly in the world from NOAA NCEP

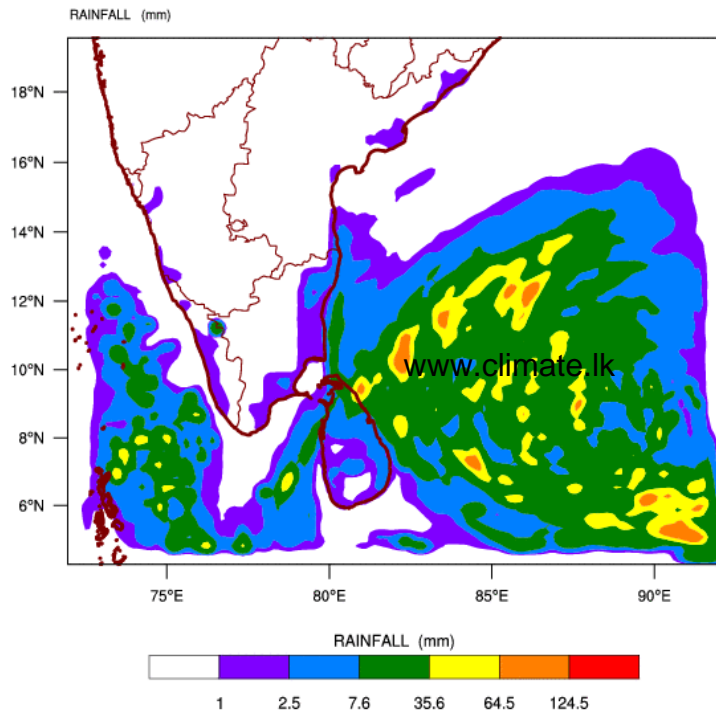


NCEP GFS 1- 14 Day prediction

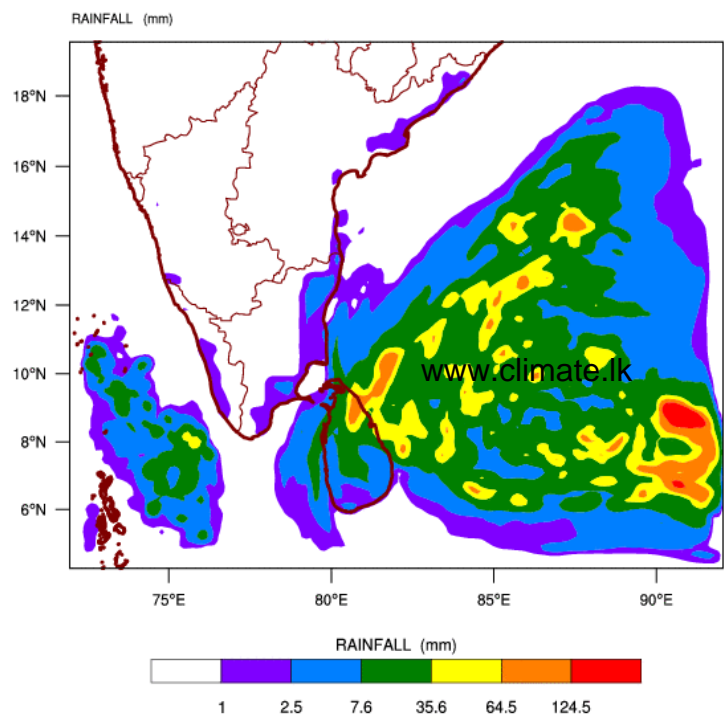


WRF Model Forecast (from IMD Chennai)

WRF MODEL FORECAST (48 HR.) RAINFALL(mm)\
based on 00 UTC of 08-11-2017 valid for 03 UTC of 10-11-2017

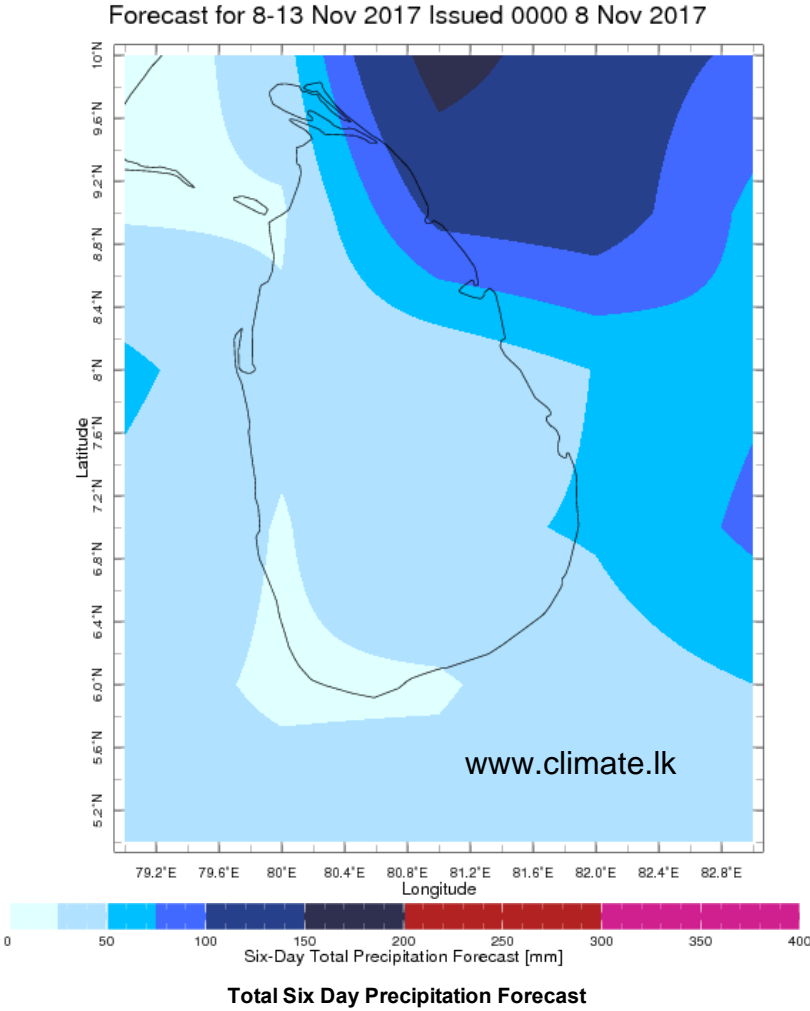
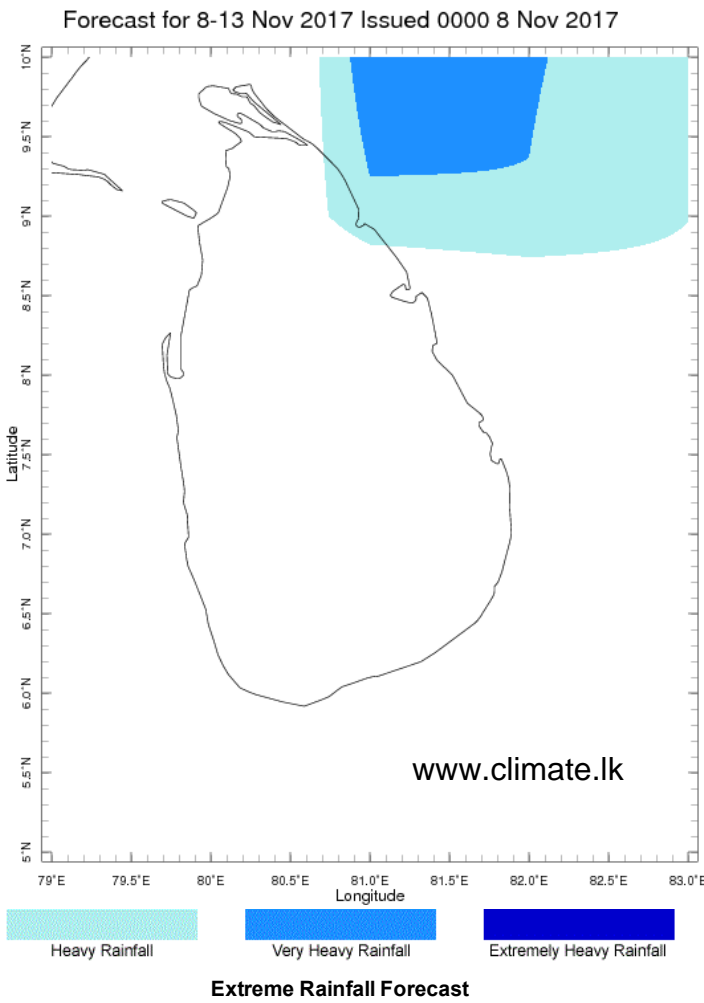


WRF MODEL FORECAST (72 HR.) RAINFALL(mm)\
based on 00 UTC of 08-11-2017 valid for 03 UTC of 11-11-2017



Weekly Rainfall Forecast from IRI

Total rainfall forecast from the IRI for next six days is provided in figures below. The figure to the left shows the expectancy of heavy rainfall events during these six days while the figure to the right is the prediction of total rainfall amount during this period.



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